UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/367,423	08/12/1999	JAMES L. FERGASON	LAMBP102WOUS	4332

7590 03/19/2004

WARREN A SKLAR
RENNER OTTO BOISSELLE & SKLAR, P.L.L.
1621 EUCLID AVENUE
19TH FLOOR
CLEVELAND, OH 44115

EXAMINER	
TRAN, HENRY N	

ART UNIT	PAPER NUMBER
2674	20

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/367,423	FERGASON, JAMES L.	
	Examiner	Art Unit	
	HENRY N TRAN	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/09/04 and the interview on 03/16/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *103-132* is/are pending in the application.

4a) Of the above claim(s) *107-113,123-125 and 127-132* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *103-106,114-122 and 126* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 August 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the applicant's reply received 01/09/04 (Paper No. 19). The claims 103-132 are pending in this application. Applicant's election of the claims was considered. Upon further consideration, the application examination results are as following.

Election/Restrictions

1. During a telephone conversation with applicant's attorney, Mr. Warren A. Sklar, Reg. No. 26,373, on 3/16/04, a provisional election was made with traverse to prosecute the invention of Group I, claims 103-106, 114-122 and 126. Affirmation of this election must be made by applicant in replying to this Office action. The reply must include the ground(s) of traversal. Claims 107-113, 123-125, and 127-132 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

2. The disclosure is objected to because of the following informalities: The use of a confusing variety of terms for the same thing is not allowed; see MPEP 608.01(o).

For examples:

Electrical drive means (independent claims 105 and 106), electronic drive elements (independent claim 114), and electrical drive 32 (see specification, page 13, lines 3-6) are all used for the same thing as illustrated in figures 3, 4 and 9.

A separator, an inherent mask, a mask, an aperture, a plate and spacer means (independent claims 105, 106 and 114), and a divider (see specification, pages 1, 2, 5, 6, etc.; are all used for the same thing as illustrated in figures 3, 4 and 9,

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 117-119 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "from about 0.12 to less than about 0.12" in claims 117 and 119, and "about 5 microns to less than about 5 microns" in claim 118 are relative terms which render the claims indefinite. Because the terms "from about 0.12 to less than about 0.12" and "about 5 microns to less than about 5 microns" are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

5. Claim 119 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because of the following reasons.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim

does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 119 recites the broad recitation "about 0.12 to less than about 0.12", and the claim also recites "about 0.04 to about 0.08", which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 103-106, 114-116, 118, 120-122 and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (U.S. Patent No. 6,246,456, hereinafter "Inoue '456") in view of Yaniv (U.S. Patent No. 5,959,710).

Inoue '456 teaches a liquid crystal display panel comprising plural liquid crystal pixels (picture elements) comprising volumes or droplets of liquid crystal 4 and a polymer medium 5

for selectively transmitting light or scattering light; plural electronic driving electrodes 2a and 2b in spaced apart relation to act as electrical drive means; and transparent spacer means 3 interposed between the glass substrates 1a and 1b and between respective driving electrodes for forming a grid of spacer means to act as separators for holding substrates at a specified distance, see figures 3-5, col. 1, lines 32-65, col. 2, lines 60-65; wherein, the index of refraction of the liquid crystal is substantially matched to the index of refraction of the medium, see col. 1, lines 43-57; any of the liquid crystal such as nematic, smectic or cholestic is applicable, see col. 11, lines 1-2; the size the volumes or droplets is having a mean diameter of 3.0 μm or less; see col. 2, lines 64-65. Inoue '456 teaches generally all except for the separator integral with and between respective picture elements for providing an inherent mask including a spacer means as claimed. Yaniv teaches an AMLCD 10 comprising a plurality of liquid crystal display element, 14-36; and plural spacers 70-88 for acting as a separator integral with and between respective display elements as claimed; see figures 2 and 3; col. 2, lines 15-28; col. 3, lines 15-35, lines 56-59. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the spacers as taught by Yaniv in the Inoue '456 device because this would provide a display device having controllably arranged spacers disposed in a pre-selected, localized areas for improving display performance, manufacturing yield, cost of the display; see col. 1, lines 6-10, lines 40-41. By this rationale, claims 103-106, 114-116, 118, 120-122 and 126 are rejected.

7. Claims 117 and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue '456 in view of Yaniv (U.S. Patent No. 5,959,710) (hereinafter referred to as "Inoue-Yaniv") as

applied to claims 103-106, 114-116, 118, 120-122 and 126 above, and further in view of Takiguchi et al (US 2001/0005246 A1, hereinafter referred to as "Takiguchi").

Inoue-Yaniv teaches generally all except for the use of the liquid crystal material having a birefringence in the range of from about 0.12 to less than about 0.12. Takiguchi teaches the use of the liquid crystal material having a birefringence of 0.1; see page 4, paragraph [0060]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the liquid crystal material as taught by Takiguchi discussed above in the Inoue-Yaniv device because this would provide a display device capable of reducing the birefringent effects, whereby achieving a high contrast with a faster response time, see Takiguchi, abstract. Claims 117 and 119 are dependent upon the base claim 114; and are therefore rejected based on the same reasons set forth in claim 114 and by the reasons discussed above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is 703-308-8410. The examiner can normally be reached on Mon – Fri from 8:00AM – 4:30PM.

If attempts to read the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at 703-305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or fax to:

703-872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Henry N. Tran

HENRY N. TRAN
Examiner
Art Unit 2674

Hnt
March 17, 2004